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EXAMINER

FORMAN, BETTY J

ART UNIT	PAPER NUMBER
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1655

DATE MAILED: 01/08/2002

25

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/417,268

Applicant(s)

CHENCHIK, ALEX

Examiner

BJ Forman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17, 38 43 46 53 and 57-77 is/are pending in the application.
- 4a) Of the above claim(s) 38, 43 and 46 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17, 53 and 57-77 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

Continued Prosecution Application

1. The request filed on 20 December 2001 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 09/417,268 is acceptable and a CPA has been established. An action on the CPA follows.
2. This action is in response to papers filed 29 October 2001 in Paper No. 22 in which claims 1, 57, 58 and 60 were amended. All of the amendments have been thoroughly reviewed and entered. The previous rejections in the Office Action of Paper No. 21 dated 27 July 2001 are withdrawn in view of the amendments. All of the arguments have been thoroughly reviewed but are moot in view of the amendments, withdrawn rejections and new grounds for rejection. New grounds for rejection are discussed.

Currently claims 1-17, 53 and 57-77 are under prosecution.

Specification

3. The disclosure is objected to because of the following informalities:

The Specification is objected to because the first paragraph does not claim priority to Provisional Application 60, 104,179 as required under 37 C.F.R. 1.78.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claims 6, 7, 13, 65, 66 and 72 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. Claims 6 and 65 are indefinite for the recitation "spot in said pattern corresponds to a different target nucleic acid" because "corresponds" is a non-specific relational term and therefore the relationship between the spot and the target nucleic acid is undefined. It is suggested that Claims 6 and 65 be amended to define the relationship e.g. replace "corresponds" with "binds" (page 17, lines 14-20).

b. Claims 7 and 66 are indefinite for the recitation "spot in said pattern corresponds to the same target nucleic acid" because "corresponds" is a non-specific relational term and therefore the relationship between the spot and the target nucleic acid is undefined. It is suggested that Claims 7 and 66 be amended to define the relationship e.g. replace "corresponds" with "binds" (page 17, lines 14-20).

c. Claims 13 and 72 are indefinite for the recitation "spots corresponds to the same type of target nucleic acid" because "corresponds" is a non-specific relational term and therefore the relationship between the spot and the target nucleic acid is undefined. It is suggested that Claims 13 and 72 be amended to define the relationship e.g. replace "corresponds" with "binds" (page 17, lines 14-20).

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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7. Claims 1-11, 13, 16, 53, 59-70, 72, 75 and 77 are rejected under 35 U.S.C. 102(b) as being anticipated by Adams et al. (WO 98/36094, published 20 August 1998).

Regarding Claim 1, Adams et al. disclose an array comprising at least on pattern of probe oligonucleotide spots (i.e. primer anchoring areas) attached to a surface of a solid support, wherein each probe spot consists of a mixture of a plurality of 2 unique oligonucleotides of different sequence that hybridize to the same target nucleic acid (i.e. primers for the same target, page 6, lines 7-12 to produce a complex made up of said target nucleic acid and 2 unique oligonucleotides (page 6, lines 7-29 and Fig. 2a-l).

Regarding Claim 2, Adams et al. disclose the array wherein said plurality of unique oligonucleotides hybridize to different regions of said target nucleic acid i.e. opposite ends of the target (page 6, lines 12-14).

Regarding Claim 3, Adams et al. disclose the array wherein said plurality of unique oligonucleotides hybridize to non-overlapping regions of said target nucleic acid i.e. they bind at opposite ends of the target (page 6, lines 12-14).

Regarding Claim 4, Adams et al. disclose the array wherein said plurality of oligonucleotides hybridize to overlapping regions of the target (page 25, lines 9-30 and Fig. 3).

Regarding Claim 5, Adams et al. disclose the array wherein two or more different target nucleic acids are represented in said pattern (page 9, lines 15-32).

Regarding Claim 6, Adams et al. disclose the array wherein each spot corresponds to a different target nucleic acid (i.e. each primer pair is positioned in a discrete spot for multiple target detection, page 9, lines 9-13).

Regarding Claim 7, Adams et al. disclose the array wherein two or more spots in said pattern correspond to the same target (page 25, lines 9-30).

Regarding Claim 8, Adams et al. disclose the array comprises a plurality of patterns i.e. the support comprises a grid pattern which delineates areas for two or more distinct targets

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whereby each area of two or more targets delineates a pattern thereby providing a plurality of patterns (page 15, lines 12-19).

Regarding Claim 9, Adams et al. disclose the array wherein said plurality of patterns are separated from each other by walls i.e. sides of concave areas on the support (page 15, lines 7-12).

Regarding Claim 10, Adams et al. disclose the array wherein each of said oligonucleotides ranges from about 15 to about 150 nucleotides in length (Claim 44).

Regarding Claim 11, Adams et al. disclose the array wherein said array comprises at least one mismatch probe i.e. nonsense sequence (page 10, lines 3-4).

Regarding Claim 13, Adams et al. disclose the array wherein said oligonucleotide spots correspond to the same type of target nucleic acid i.e. a target nucleic acid to be mapped (page 10, lines 12-20).

Regarding Claim 16, Adams et al. disclose the array wherein the spots on the array range from about 50 to about 10,000 in number i.e. each spot on a 1cm² support has an area of between 10μ² and 1mm² which provides between about 50 and 10,000 spots in number (page 20, lines 16-27).

Regarding Claim 53, Adams et al. disclose a kit comprising the array of Claim 1 (page 11, lines 21-27 and Claim 62).

Regarding Claim 59, Adams et al. disclose the kit further comprising reagents for generating a labeled target (page 11, lines 29-33 and Claim 62)

Regarding Claim 60, Adams et al. disclose an array comprising at least on pattern of probe oligonucleotide spots (i.e. primer anchoring areas) attached to a surface of a solid support, wherein each probe spot consists of a mixture of a plurality of 2 unique oligonucleotides of different sequence that cooperatively hybridize to the same target nucleic acid (i.e. primers for the same target cooperatively hybridize to produce a bridge, page 6, lines

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18-29) to produce a complex (i.e. bridge) made up of said target nucleic acid and 2 unique oligonucleotides (page 6, lines 24-25 and Fig. 2a-l).

Regarding Claim 61, Adams et al. disclose the array wherein said plurality of unique oligonucleotides hybridize to different regions of said target nucleic acid i.e. opposite ends of the target (page 6, lines 7-14).

Regarding Claim 62, Adams et al. disclose the array wherein said plurality of unique oligonucleotides hybridize to non-overlapping regions of said target nucleic acid i.e. they bind at opposite ends of the target (page 6, lines 7-14).

Regarding Claim 63, Adams et al. disclose the array wherein said plurality of oligonucleotides hybridize to overlapping regions of the target (page 25, lines 9-30 and Fig 3).

Regarding Claim 64, Adams et al. disclose the array wherein two or more different target nucleic acids are represented in said pattern (page 9, lines 15-32).

Regarding Claim 65, Adams et al. disclose the array wherein each spot corresponds to a different target nucleic acid (i.e. each primer pair is positioned in a discrete spot for multiple target detection, page 9, lines 9-13).

Regarding Claim 66, Adams et al. disclose the array wherein two or more spots in said pattern correspond to the same target (page 25, lines 9-30).

Regarding Claim 67, Adams et al. disclose the array comprises a plurality of patterns i.e. the support comprises a grid pattern which delineates areas for two or more distinct targets whereby each area of two or more targets delineates a pattern thereby providing a plurality of patterns (page 15, lines 15-19).

Regarding Claim 68, Adams et al. disclose the array wherein said plurality of patterns are separated from each other by walls i.e. sides of concave areas on the support (page 15, lines 7-11).

Regarding Claim 69, Adams et al. disclose the array wherein each of said oligonucleotides ranges from about 15 to about 150 nucleotides in length (Claim 44).

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Regarding Claim 70, Adams et al. disclose the array wherein said array comprises at least one mismatch probe i.e. nonsense sequence (page 10, lines 3-4).

Regarding Claim 72, Adams et al. disclose the array wherein said oligonucleotide spots correspond to the same type of target nucleic acid i.e. a target nucleic acid to be mapped (page 10, lines 12-20).

Regarding Claim 75, Adams et al. disclose the array wherein the spots on the array range from about 50 to about 10,000 in number i.e. each spot on a 1cm^2 support has an area of between $10\mu^2$ and 1mm^2 which provides between about 50 and 10,000 spots in number (page 20, lines 16-27).

Regarding Claim 77, Adams et al. disclose a kit comprising the array of Claim 60 (page 11, lines 21-27 and Claim 62).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 12, 14, 15, 17, 57, 58, 71, 73, 74 and 76 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adams et al. (WO/9836094, published 20 August 1998).

Regarding Claim 12, Adams et al. teach an array comprising at least on pattern of probe oligonucleotide spots (i.e. primer anchoring areas) attached to a surface of a solid support, wherein each probe spot consists of a mixture of a plurality of 2 unique oligonucleotides of different sequence that hybridize to the same target nucleic acid (i.e. primers for the same

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target, page 6, lines 7-12) to produce a complex made up of said target nucleic acid and 2 unique oligonucleotides (page 6, lines 7-29 and Fig. 2a-l) wherein additional unique oligonucleotides are simultaneously hybridized to the target nucleotide at a localized spot to optimize detection of targets at their respective localized spots (page 27, lines 10-21) but they do not specifically teach the additional unique oligonucleotides are each attached to the surface of the solid support. The courts have stated that "It is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... [T]he idea of combining them flows logically from their having been individually taught in the prior art." In *re Kerkhoven*, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980). Therefore, it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to combine the attached oligonucleotide primer composition and the labeled oligonucleotide probe composition taught by Adams et al. into a single composition thereby forming a third composition of 3 or more oligonucleotides comprising primer and probe oligonucleotides to thereby optimize localization of the primers and probes for the expected benefit of optimizing detection of target nucleotides each at their respective localized spot.

Regarding Claims 14 and 15, Adams et al. teach the array having a spot density of between 10,000/cm² to 100/cm² (i.e. areas of between 10μ² and 1mm² are positioned on a 1cm² support, page 20, lines 16-27) but they do not teach the density does not exceed 1,000/cm² (Claim 14) and 400/cm² (Claim 15). The courts have stated where the claimed ranges "overlap or lie inside the ranges disclose by the prior art" and even when the claimed ranges and prior art ranges do not overlap but are closed enough that one skilled in the art would have expected them to have similar properties, a *prima facie* case of obviousness exists (see *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990); *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985). Therefore, the claimed ranges, which overlap the ranges

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taught by Adams et al., would have been obvious to one of ordinary skill in the art at the time the claimed invention was made and it would have been obvious to one skilled in the art to modify the range of probe densities taught Adams et al. to obtain the claimed densities because one skilled in the art would have reasonably expected the claimed densities to have similar properties as those taught by Adams et al.

Regarding Claim 17, Adams et al. teach the array wherein the spots on the array range from about 50 to about 10,000 in number i.e. each spot on a 1cm² support has an area of between 10μ² and 1mm² which provides between about 50 and 10,000 spots in number (page 20, lines 16-27) but they do not teach the number ranges from about 50 to 1,000. The courts have stated where the claimed ranges "overlap or lie inside the ranges disclose by the prior art" and even when the claimed ranges and prior art ranges do not overlap but are closed enough that one skilled in the art would have expected them to have similar properties, a *prima facie* case of obviousness exists (see *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990); *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985). Therefore, because the claimed ranges overlap the ranges taught by Adams et al. the claimed ranges would have been obvious to one of ordinary skill in the art at the time the claimed invention was made and it would have been obvious to one skilled in the art to modify the range of spot numbers taught Adams et al. to obtain the claimed 50 to 1,000 spots because one skilled in the art would have reasonably expected the claimed 50 to 1,000 spots to have similar properties as the 50 to 10,000 taught by Adams et al.

Regarding Claim 57, teach an array comprising at least one pattern of probe oligonucleotide spots (i.e. primer anchoring areas) attached to a surface of a solid support, wherein each probe spot consists of a mixture of 2 unique oligonucleotides of different sequence that hybridize to a different region of the same target nucleic acid (i.e. primers for the same target, page 6, lines 7-12) to produce a complex made up of said target nucleic acid and 2

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unique oligonucleotides (page 6, lines 7-30 and Fig. 2a-l) wherein array wherein each of said oligonucleotides ranges from about 15 to about 150 nucleotides in length (Claim 44) and they teach additional unique oligonucleotides are simultaneously hybridized to the target nucleotide at a localized spot to optimize detection of targets at their respective localized spots (page 27, lines 10-21) but they do not specifically teach the additional unique oligonucleotides are each attached to the surface of the solid support. The courts have stated that "It is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... [T]he idea of combining them flows logically from their having been individually taught in the prior art." In re Kerkhoven, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980). Therefore, it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to combine the attached oligonucleotide primer composition and the labeled oligonucleotide probe composition taught by Adams et al. into a single composition thereby forming a third composition of 3 or more oligonucleotides comprising primer and probe oligonucleotides to thereby optimize localization of the primers and probes for the expected benefit of optimizing detection of target nucleotides each at their respective localized spot.

Regarding Claim 58, Adams et al. teach an array comprising at least on pattern of probe oligonucleotide spots (i.e. primer anchoring areas) attached to a surface of a solid support, wherein each probe spot consists of a mixture of 2 unique oligonucleotides of different sequence that hybridize to a different region of the same target nucleic acid (i.e. primers for the same target, page 6, lines 7-12) to produce a complex made up of said target nucleic acid and 2 unique oligonucleotides (page 6, lines 7-30 and Fig. 2a-l) wherein array wherein each of said oligonucleotides ranges from about 25 to about 100 nucleotides in length (Claim 44) and they teach additional unique oligonucleotides are simultaneously hybridized to the target nucleotide at a localized spot to optimize detection of targets at their respective localized spots (page 27, lines 10-21) but they do not specifically teach the additional unique oligonucleotides are each

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attached to the surface of the solid support. The courts have stated that "It is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... [T]he idea of combining them flows logically from their having been individually taught in the prior art." *In re Kerkhoven*, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980). Therefore, it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to combine the attached oligonucleotide primer composition and the labeled oligonucleotide probe composition taught by Adams et al. into a single composition thereby forming a third composition of 3 or more oligonucleotides comprising primer and probe oligonucleotides to thereby optimize localization of the primers and probes for the expected benefit of optimizing detection of target nucleotides each at their respective localized spot. Additionally, they teach the array having a spot density of between 10,000/cm² to 100/cm² (i.e. areas of between 10μ² and 1mm² are positioned on a 1cm² support, page 20, lines 16-27) but they do not teach the density does not exceed 400/cm². The courts have stated where the claimed ranges "overlap or lie inside the ranges disclose by the prior art" and even when the claimed ranges and prior art ranges do not overlap but are closed enough that one skilled in the art would have expected them to have similar properties, a *prima facie* case of obviousness exists (see *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990); *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985). Therefore, the claimed ranges, which overlap the ranges taught by Adams et al., would have been obvious to one of ordinary skill in the art at the time the claimed invention was made and it would have been obvious to one skilled in the art to modify the range of probe densities taught Adams et al. to obtain the claimed densities because one skilled in the art would have reasonably expected the claimed densities to have similar properties as those taught by Adams et al.

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Regarding Claim 71, Adams et al. teach an array comprising at least on pattern of probe oligonucleotide spots (i.e. primer anchoring areas) attached to a surface of a solid support, wherein each probe spot consists of a mixture of a plurality of 2 unique oligonucleotides of different sequence that cooperatively hybridize to the same target nucleic acid (i.e. primers for the same target cooperatively hybridize to produce a bridge, page 6, lines 7-12) to produce a complex made up of said target nucleic acid and 2 unique oligonucleotides (page 6, lines 7-30 and Fig. 2a-l) wherein additional unique oligonucleotides are simultaneously hybridized to the target nucleotide at a localized spot to optimize detection of targets at their respective localized spots (page 27, lines 10-21) but they do not specifically teach the additional unique oligonucleotides are each attached to the surface of the solid support. The courts have stated that "It is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... [T]he idea of combining them flows logically from their having been individually taught in the prior art." In re Kerkhoven, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980). Therefore, it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to combine the attached oligonucleotide primer composition and the labeled oligonucleotide probe composition taught by Adams et al. into a single composition thereby forming a third composition of 3 or more oligonucleotides comprising primer and probe oligonucleotides to thereby optimize localization of the primers and probes for the expected benefit of optimizing detection of target nucleotides each at their respective localized spot.

Regarding Claims 73 and 74, Adams et al. teach the array having a spot density of between 10,000/cm² to 100/cm² (i.e. areas of between 10μ² and 1mm² are positioned on a 1cm² support, page 20, lines 16-27) but they do not teach the density does not exceed 1,000/cm² (Claim 73) and 400/cm² (Claim 74). The courts have stated where the claimed ranges "overlap or lie inside the ranges disclose by the prior art" and even when the claimed

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ranges and prior art ranges do not overlap but are closed enough that one skilled in the art would have expected them to have similar properties, a *prima facie* case of obviousness exists (see *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990); *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985). Therefore, the claimed ranges, which overlap the ranges taught by Adams et al., would have been obvious to one of ordinary skill in the art at the time the claimed invention was made and it would have been obvious to one skilled in the art to modify the range of probe densities taught Adams et al. to obtain the claimed densities because one skilled in the art would have reasonably expected the claimed densities to have similar properties as those taught by Adams et al.

Regarding Claim 76, Adams et al. teach the array wherein the spots on the array range from about 50 to about 10,000 in number i.e. each spot on a 1cm² support has an area of between 10μ² and 1mm² which provides between about 50 and 10,000 spots in number (page 20, lines 16-27) but they do not teach the number ranges from about 50 to 1,000. The courts have stated where the claimed ranges “overlap or lie inside the ranges disclose by the prior art” and even when the claimed ranges and prior art ranges do not overlap but are closed enough that one skilled in the art would have expected them to have similar properties, a *prima facie* case of obviousness exists (see *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990); *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985). Therefore, the claimed ranges which overlap the ranges taught by Adams et al. would have been obvious to one of ordinary skill in the art at the time the claimed invention was made and it would have been obvious to one skilled in the art to modify the range of spot numbers taught Adams et al. to obtain the claimed 50 to 1,000 spots because one skilled in the art would have reasonably expected the claimed 50 to 1,000 spots to have similar properties as the 50 to 10,000 taught by Adams et al.

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Prior Art

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Adams et al. (U.S. Patent No. 6,060,288, filed 14 February 1997) disclose an array comprising at least one pattern of probe spots attached to a surface of a solid support (Fig. 2 and 3).

Conclusion

11. No claim is allowed.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BJ Forman whose telephone number is (703) 306-5878. The examiner can normally be reached on 6:30 TO 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Jones can be reached on (703) 308-1152. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-4242 for regular communications and (703) 308-8724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.



BJ Forman, Ph.D.
Patent Examiner
Art Unit: 1655
January 7, 2002